

WHAT IS CLAIMED IS:

1. A fluid pump comprising:

a housing;

a shaft rotatably supported by said housing;

a cylinder bore formed within said housing;

a piston accommodated in said cylinder bore, said piston reciprocating in said cylinder bore;

a orbiting member integrally rotating with said shaft, said orbiting member including a slant plane slanting with respect to the shaft;

a swing member connected to said slant plane through a thrust bearing, said swing member swinging with a rotation of said rotating member to reciprocate said piston; and

a swing support mechanism like a universal joint supporting said swing member such that said swing member swings, wherein

said swing support mechanism includes a first rotating member capable of rotating around a first axis perpendicular to a center line of said shaft, a constraining member connected to said first rotating member and restraining said first rotating member from rotating around the center line, and a second rotating member connected to said first rotating member such that said second rotating member rotates around a second axis perpendicular to the center line and crossing the first axis, and

said swing member is connected to said second rotating member.

2. A fluid pump according to claim 1, wherein  
said first and second rotating members are substantially  
formed in a ring,  
said first rotating member is connected to said constraining  
member through a cylindrically formed first pin, and  
said second rotating member is connected to said first  
rotating member through a cylindrically formed second pin.

3. A fluid pump according to claim 1, wherein  
said orbiting member is connected to said shaft such that  
a slant angle formed by said slant plane and the center line changes,  
and  
said constraining member is disposed in said housing to  
move in a direction of the center line.

4. A fluid pump according to claim 3, further comprising  
a discharge capacity detecting mechanism for detecting a discharge  
capacity based on an amount of displacement of said constraining  
member.

5. A fluid pump according to claim 3, wherein  
said constraining member is cylindrically formed, and of  
which cross section is polygonal,  
said housing includes a hole having a cross section similar  
to the cross section of said constraining member, and  
said constraining member is slidably inserted into the hole.

6. A fluid pump according to claim 3, wherein  
said constraining member is cylindrically formed, and of  
which cross section is shaped like a gear,  
said housing includes a hole having a cross section similar  
to the cross section of said constraining member, and  
said constraining member is slidably inserted into the hole.

7. A fluid pump according to claim 3, wherein said  
constraining member is prevented from rotating with respect to  
said housing by a key fit and slides in the direction of the center  
line.

8. A fluid pump according to claim 1, wherein  
said swing member is formed in a ring disc, and  
said swing support mechanism is disposed near a center of  
said swing member.